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Publication date:
2009

Document version
Publisher's PDF, also known as Version of record

EPRU Working Paper Series 2009-08

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ISSN 0908-7745

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Nov 9, 2009
First Version: Nov 2006

Abstract

We use survey responses by firms to examine the firm-level determinants and effects of political influence, their perception of corruption and prevalence of bribe paying. We find that: (a) measures of political influence and corruption/bribes are uncorrelated at the firm level; (b) firms that are larger, older, exporting, government-owned, are widely held and/or have fewer competitors have more political influence, perceive corruption to be less of a problem and pay bribes less often; (c) influence increases sales and government subsidies and in general makes the firm have a more positive view on the government. In sum, we show that strong firms use their influence to bend laws and regulations, whereas weak firms pay bribes to mitigate the costs of government intervention.

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* We thank Jim Alt, Michael Laver, Christian Schultz, Alastair Smith and seminar participants at Copenhagen Business School, INSEAD, the Midwest Political Science Association Meetings, New York University and the University of Copenhagen for comments and suggestions. Funding from EPRN, the Danish Social Science Foundation and Economic Policy in the Modern Welfare State (WEST) is gratefully acknowledged.

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1. Introduction

An important aspect of running a business is how to interact with the government. Whether a firm complies with laws and regulations, seeks exemptions from the rules that affect it, or attempts to change them has important consequences for the firm's profitability, market opportunities and growth (Baron, 1999). In this paper, we analyze empirically which of the above strategies the firm chooses in its interaction with the state.

We observe that even within a given political system there is variation in the prevalence of both corruption and lobbying activity of firms. While a large literature has examined the institutional features that are associated with corruption, few studies have addressed the micro-determinants on the demand side of corruption and influence; though see Svensson (2003) for an empirical characterization of the firms that pay bribes in Uganda. In this paper we investigate the factors that make a firm more likely to engage in corruption and/or to lobby and influence decision-makers within a *given* institutional environment.

Whether firms engage in corruption or in lobbying (or both) depends on a combination of demand-side and supply-side factors. The supply side—i.e., the willingness of government officials' to bend rules as well as the responsiveness of the political system to lobbying efforts—is largely determined by institutional features of the legal, political and social environment. On the demand side, by contrast, firm- and industry-characteristics largely determine how valuable exceptions to or changes of the rules are to the firm. For example, a firm that relies on large government contracts may benefit more from having a bureaucrat steer a contract its way than

does a firm that sells primarily to the private sector. Similarly, firms in a competitive industry may be less eager or able to seek or prevent government intervention than are firms in a concentrated industry or in a sector that faces import competition.

We claim and will show that corruption and lobbying at the firm level are largely substitutes. If government rule-makers are responsive to business interests there is little need for firms to be corrupt. When the rules are adverse to business and there is little opportunity to ameliorate them, or if officeholders are all too willing to bend those rules, then the best course of action available for the firm could be to seek ways around the rules by engaging in corruption.

We focus on the micro-determinants of influence and corruption. Which firm characteristics are associated with more corruption and which with more lobbying? How do the two interact: are corrupt firms also the ones with powerful political influence, or does lobbying indeed, as claimed above, reduce a firm's likelihood of being corrupt? Furthermore, are corrupt firms more successful in terms of profitability, market opportunities and growth, does political influence improve those measures, or are these activities unrelated to the firm's success?

We use responses to the World Bank Group's World Business Environment Survey (WBES) to identify some sources of variation in the perceived level of corruption and the firms' self-assessed influence on national decision-makers. We focus on the firm- and industry-specific sources of variation in influence and perceived corruption and use an instrumental variables approach to identify causal relationships.

Our results show the following: First, larger, older, and export oriented firms perceive themselves to be more influential on government decisions. At the same

time, smaller firms and firms in a more competitive environment tend to perceive their environment to be more corrupt. Almost all of our determinants affect corruption and influence in opposite directions. Second, using instruments to control for potential endogeneity we also find that firms that perceive themselves as more influential face less corruption. The reverse, however, is not true; an independent decrease in perceived corruption does not increase a firm's influence.

Third, politically influential firms have larger sales growth (and weakly larger investment activity). An independent variation in influence (corruption) is associated with a higher (lower) growth of sales.

In summary, these empirical results suggest that lobbying and bribes are substitutes and that lobbying—or political influence more generally—is a superior instrument for firms to obtain favorable outcomes. Within a given political system, firms that perceive themselves as having political influence are less subject to corruption and achieve better performance than firms lacking this access. We call the former set of firms strong. Weaker firms, those without access and influence, may have to resort to corruption and/or may be more prone to exploitation by corrupt bureaucrats. While we cannot identify whether weak firms choose corrupt means or corrupt bureaucrats erect hurdles in order to extract rents, the lack of influence as an outside option weakens these firms' bargaining power and imposes a greater loss on them than on firms with legitimate routes of access.

The policy implications of these results is that for anti-corruption measures to succeed, policy makers should take into consideration the inherent trade-off between corruption and influence on the demand side (i.e., for the firms potentially engaging in

corruption). If firms have means to participate in the design of the rules, they may have less incentive to break them. The paper lends empirical support to the hypothesis that in order to improve governance, particularly in developing countries, better and balanced representation of stakeholders in the law-making and regulatory processes needs to be available.

We believe there are four key differences between the exercise of political influence and corruption. First, by common definition, corruption is illegal while political influence in general is not.[1] Second, corruption is an attempt to circumvent or violate a given set of rules on a case-by-case basis, while wielding political influence can be seen as attempting to change the rules. E.g., corruption may take the form of bribes required to obtain a business license or to win a government contract. Third, there is a difference in the time horizon of the firm as the investor in a political (or bureaucratic) relationship.[2] Changing the rules provides a longer lasting benefit and thus may be more costly than seeking a one-off exemption from a rule. Fourth, the benefit of corruption generally accrues to a particular firm or individual, while lobbying or political influence changes the rules for a group of firms or entire industries, or results in industry-wide subsidies or tax exemptions.

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[1] Kaufmann and Vicente (2008), more idiosyncratically, distinguish illegal corruption from what they denote legal corruption, which is the ability of private parties to affect legislation through campaign contributions. In practice, their (expert) measures of the two are highly correlated.

[2] This is the focus of the recent paper by Harstad and Svensson (2009). In their model, firms either bribe bureaucrats to bend the rules or lobby to change the rules. They assume that changing the rules is an irreversible decision, but note that in a more general setting, it would be more likely to observe firms lobbying, the longer is the horizon of the change of rules. In their framework, when the legislature is weak there is a greater chance of rulings being overturned, leading to less return on lobbying efforts which, in turn, reduces the equilibrium amount of lobbying and decreases the relative costs of bribes.

These distinctions give rise to relevant trade-offs for a firm when choosing between political influence and corruption. If changing the rules requires a large up-front investment, then, all else equal, smaller firms or firms in a fragmented industry may choose corruption while large firms and firms that dominate their industry benefit relatively more from political influence. Firms that are politically well-connected may find it relatively cheaper to change the rules than those without direct access, and as a result may be less corrupt. A firm that trusts the legislative process perceives a higher return for investing in political influence than a firm that deems the political process unreliable or that believes new rules, even if adopted, will not be enforced or will not last.

The literature on corruption has mostly been empirical, owing in large part to the availability and construction of cross-national comparable indices measuring corruption (surveyed in Treisman, 2007), while the political economy literature on special interest politics (e.g. Grossman and Helpman, 2003) has been mostly theoretical, and empirical work has been concentrated on particular countries or cases, with very little comparative, quantitative work on the causes of political influence.

A large literature on lobbying investigates, often theoretically, how interest groups communicate information important to political decision-making to politicians. Bennedsen and Feldmann (2002) examine theoretically the endogenous choice between providing contributions and information and relate this to the constitutional setting, and Hall and Deardorff (2006) argue that such transfers of facts and information can be seen as (yet another) way of transferring resources to politicians.

Firms can have influence on political decisions through formal recognition in the rule-making process, by having privileged access to decision-makers or by relying on political connections. Fisman (2000) examined firms with ties to President Suharto in Indonesia and explored the effects of news about the Suharto's health status on the stock market performance of such firms. Faccio (2006) surveys politicians in a number of countries to construct a measure of political connections, and Faccio et al. (2006) show that such connections are effective in securing government bailouts, a result similar to that obtained by Khwaja and Mian (2005) in the context of the Pakistan banking sector.

Dal Bo et al. (2006) consider the (endogenous) choice of influencing politicians and civil servants by money or threats. A related paper by Chamon and Kaplan (2007) examines a setting where firms can threaten politicians not only by withholding contributions but instead contributing to the opposition.

The rest of the paper is organized as follows: The next section describes our data and shows that political influence and corruption/bribes are uncorrelated on firm level. Section 3 presents our results and section 4 concludes.

2. Data

2.1 Measuring corruption and influence

As our main source of data, we use the World Bank Groups's World Business Environment Survey (WBES). The WBES was implemented using a uniform methodology in 80 countries, surveying at least 100 firms in each country, and was carried out from late 1998 and completed in 2000 (see Batra et al. 2003). Some

questions or sections were not asked in all countries or groups of countries. For our purpose, we focus on the 58 countries in which responses were registered on our main variables of interest.[3] In most regressions, we report results based on between 4,000 and 5,000 observations from 57 countries.

The dependent variable measuring political influence is the simple average over the answer to four questions: "How much influence does your firm have on X" where X is government executive, legislature, ministry, and regulatory agency, and the answer range goes from 2 (never influential) to 6 (very influential).[4] The question does not ask if firms pursue a particular mode of influence, but rather about the overall level of influence from the combination of different strategies. The answers to the four questions are highly correlated at the firm level: correlations range from .735 to .833, all obviously strongly significant, and a factor analysis suggests strong loading on the first factor, explaining almost 85 percent of the variation. We choose, therefore, to work with one single variable. Since some firms did not answer all four questions we use the simple average rather than the factor score.[5] While correlations among the individual influence questions are all very high, the differences suggest an obvious pattern: Regulatory influence is the least correlated with the other three measures, while influence on the legislature and the executive shows the highest correlation.

[3] The number of respondents in Russia is very high compared to other countries, but results do not depend on Russia being in the sample.

[4] The exact wording of the survey questions is given in the Appendix.

[5] An alternative measure is to use the maximum response given by a firm to any of the four questions, as firms might direct their resources towards where they have the highest influence. Using this maximum-measure or the first factor score does not affect our results.

The end result, our average influence variable, denoted simply political influence below, has a highly skewed distribution, as can be seen from the top panel a) in Figure 1: roughly half of the firms report never being influential in any of the four dimensions. Fifteen percent of firms report being influential, frequently influential or always influential on average, and only one percent of firms report always being influential in all four government venues. It is interesting to note that firms in South-East Asia perceive themselves more influential, on average.

We consider two measures of corruption. The first is a measure of general corruption (Q: How problematic is corruption to the operation and growth of your business?). We note that the corruption question is not about how often the firm observes or experiences corruption, but rather about whether it is a problem for conducting business. Thus, some firms may in fact engage in corrupt behavior without considering it an obstacle to business, because they, or the entire country, have adapted to higher corruption levels. However, we include the question as it is the best comparable measure to the existing cross-country measures of corruption, to which we turn below. Approximately half of the surveyed firms report that corruption is never or seldom a problem, while 26 percent report it is mostly or always the case.

The second measure of corruption assesses the prevalence of bribes. Respondents were asked how often firms in their line of business to have to pay some irregular "additional payments" to get things done. In the analysis we primarily rely on this second, more direct, question on bribe payments rather then the general corruption

measure.[6] Half of the firms never pay bribes, 16 percent mostly or always pay bribes. As can be seen from panels b) and c) in Figure 1, the distributions of corruption and bribe paying are less skewed than that of political influence.

< Figure 1: Distribution of survey responses, here >

Table 1a shows the simple correlations at the firm level between our three key variables, political influence, corruption and bribe payment. General corruption perceptions and the frequency of additional payments are significantly positively correlated (.36) while they are both uncorrelated with influence, with coefficients very close to zero.

< Table 1a: Firm level correlations, here >

Can we build an empirical investigation around firms' assessment of influence and corruption in subjective surveys? We believe that firms are a good source of information, both on its own and as a supplement to cross country measures based on expert assessments. While there is some disagreement about the usefulness and validity of popular cross country measures of corruption and governance (see Treisman, 2007), a first step in our validity check is to compare the survey responses, averaged at the country level, to popular cross-country measures. If the aggregate survey measures of corruption are in line with cross-country measures used by a very large literature, we feel more confident in using the responses for constructing our political influence measure. Table 1b correlates the country average of political

[6] Results using the general corruption measure are very similar to the ones reported and are available from the authors.

influence and our corruption measures with the widely used Corruption Perceptions Index from Transparency International, an International Country Risk Guide measure of Quality of Government and a Governance indicator on corruption from the World Bank (Kaufmann et al.); all three of the latter are coded such that higher levels mean less corruption.

< Table 1b: Country level correlations, here>

The political influence measure is not significantly correlated with any of the corruption measures at the country level. Political influence continues to be uncorrelated with the aggregated corruption and bribe payments measures and, while the coefficients are insignificant, it is slightly negative correlated with the three country-level measures of governance.

On the other hand, both general corruption and bribe paying are significantly and strongly correlated with the other governance measures. In particular, the corruption measure correlates at .84 with the Transparency International Corruption Perceptions Index (TICPI), while the bribe paying correlates with the TICPI at .78. This suggests two things: First, that firms' assessment of corruption levels and the need for additional payments are generally in accordance with that of other survey and expert measures (assuming that firms' responses are not directly influenced by these). Second, that our influence measure taps into another, previously uninvestigated, factor of governance. We also note (not shown) that the raw correlations suggest that general corruption and the frequency of additional payments are significantly lower in countries with a better quality of parliament (as perceived by firms), while the

opposite is true regarding influence: Average influence is higher when the quality of parliament is higher. We return to this below.[7]

As a final check, we also examine how our influence measure relates to Faccio's (2006) measure of political connections. Faccio investigates whether firms are connected to an MP or a minister using firm databases and questionnaires. Unfortunately, the groups of countries do not overlap very much: only 24 countries are present in both data sets. However, the correlation between Faccio's key measure, the percent of firms connected, has a high, positive correlation (.46) with our influence measure.

2.2 Specification and empirical strategy

We begin by estimating the correlates of political influence and corruption using OLS. We include country indicators to control for any firm-invariant institutional impact on influence and corruption. As discussed above, this allows us to focus on how variation in market and corporate governance structures affect the level of influence and corruption from the demand side for a given supply of political influence and corruption.

As the dependent variable is substantially skewed, we have experimented with various transformations, which had no effect on results. To facilitate interpretation and comparisons, we stick to ordinary least squares, but results are unchanged using models of ordered categorical variables for a non-averaged measure of influence. As is

[7] One concern in this type of surveys is that firms, in particular in less democratic countries, may answer questions of democracy in ways that make them seem like outliers, possibly because they do not correspond to Western conceptions of the variables under study, possibly out of fear of repercussions from the regime. While vignettes are sometimes suggested to counter such problems, e.g. King et al. (2004), they are not available to us in this context, but visual inspection of the data does not suggest major problems of interpretation.

well known, standard errors can be substantially underestimated, in particular for cluster level variables, in the presence of intra-cluster correlation of errors for lower level observational units. To deal with this, we correct standard errors for clustering at the country level.

Market structure affects the firms' organization and commercial opportunities and thereby their incentives and abilities to influence government decisions and regulation. To capture the variation in market structure and firm characteristics we include sector (manufacturing, service, other, agriculture, construction), number of competitors, size (small (< 50 empl), medium (50–500 empl), large (>500 empl)), whether the firm is an exporter (yes/no), and the year of establishment of the firm.

The structure and identity of owners matters for a number of reasons. First, it can affect regulation through corporate and accounting laws directly. In most countries around the world, there are different accounting requirements for publicly traded firms than for closely held firms. Foreign owned firms are regulated differently from domestically owned ones in many countries. More generally, the ownership structure and the identity of the owners affect the owners' ability to interact with regulative authorities; for example, well-connected owners may find it easier to influence without paying bribes. To capture firm specific variation in governance structure, we focus on the identity and number of owners of a given firm. In particular, we are interested in whether firms are government owned, privately domestically owned or foreign owned, and how dispersed ownership is.

One of the key questions we address in this paper is to what extent influence and corruption are strategic substitutes or complements for the firms. This implies that

the causal interpretation of the simple OLS regressions can be affected by endogeneity problems. In particular, it is difficult to establish a causal relationship between influence and corruption from the simple OLS regressions.

To address the endogeneity problems related to the simultaneous choice of using influence and bribes we estimate a two stage least squares model instrumenting for bribes and influence. Our identification strategy is therefore to identify variables that impact influence or bribe paying but not both. Our prime candidates for instrumenting bribe paying are answers to the assessments "Quality and efficiency of the police" and whether "Courts are fair and impartial." We claim that the quality of police and courts has an effect on illegal activities including bribe paying, but is not of great importance for legal activities such as lobbying through, e.g., campaign donations or representation. We instrument the influence variable with the answer to the questions to what extent "Businesses are informed in advance of changes that will affect them" and "Government takes into account concerns voiced by business." Advising firms about future changes in laws and regulation and listening to business concerns is a very direct way to incorporate business interests into government decisions. It provides firms with information and access to make their interests known to regulators and politicians before business policies and regulations are implemented.

In the final part of our analysis we proceed to study the firm level economic consequences of influencing and bribing officials. We focus in this part on sales and investment, but do also report the impact on broader measures of firms' perception of their relationship with the regulative and judicial system.

3. Results: Determinants of Political influence and corruption

3.1 Determinants of Political influence and corruption

Our main results on the determinants of firms' political influence and corruption are shown in table 2. Within each pair of columns the specification is the same and only the dependent variables differ: political influence and bribe paying, respectively. The first pair of columns introduces the basic empirical specification, the second and the third pairs introduce some additional variables, at the price of fewer observations, while the final three pairs present the basic specification at the sector level. The main message to take from these results is that, across the board, factors that are positively correlated with firms' perceived influence are significantly negatively correlated with their susceptibility to bribe paying and, conversely, factors that significantly limit political influence tend to be positively correlated with bribe paying.

< Table 2 here >

As discussed above, the use of country indicators captures the institutional variation related to the supply side of corruption. Instead, we focus on firm level variation in market structure and firm governance to identify the determinants of the demand side of corruption. We begin by discussing variation in a number of proxies for firm structure and market organization.

Firm size is significantly related to the degrees of influence and bribe paying. The base category being medium sized firms, small firms report significantly less influence and large firms significantly more. The converse holds for bribe paying. The result is not surprising for influence, in particular since the question asks about influence at

the level of the central, not local, government. Smaller firms, even if they have political influence locally, will find it hard to wield influence at the national stage. The result is in line with case and country level studies[8] as well as with the idea that political influence is a big investment that is more effective for larger firms. [Result for corruption?]

We find that political influence wanes with the number of competitors (a result that holds also in a bivariate correlation), controlling for firm size, sector, and ownership concentration. One interpretation is that monopoly or near-monopoly power yields rents that can be used to buy influence, and that firms will be more eager to protect these rents by acquiring influence. At the same time, a more fragmented industry has more difficulty organizing collective action necessary to obtain political influence. An alternative interpretation is that the causal effect is reversed and that in this case higher political influence is the cause of fewer competitors rather than an effect, such that politically connected firms can use their political influence to keep out competition and establish market dominance. When we look at bribe paying, however, we get a different result. Firms with more competitors report paying bribes significantly more often (with a similar but weaker result being true for corruption; not reported). This is in contrast to the result obtained by Ades and di Tella (1999), but consistent with a view of monopoly bureaucrats collecting contributions or bribes from multiple firms by essentially playing the firms competing for permits or favorable policies against each other (Tullock, 1967; Dixit, Grossman and Helpman

[8] Salamon and Siegfried (1977) note that larger firms may opt out of lobbying organization and follow their own goals directly, while medium size firms can enter lobby groups, leaving small firms free-riding. Campos and Giovannoni (2007) find, looking at transition countries, that both medium size and large firms are more likely to join lobby groups than smaller firms.

1997). One benefit of our data is that our measure of competing firms is based on the firms' own perception, which can provide less noisy measures of the degree of actual competition.

Exporting firms have more influence, even taking into account that these are generally larger by controlling for size. Exporting firms are more sensitive to changes in regulation specifically and, more generally, to the political relationship between nations. Hence, exporting firms have a stronger incentive to engage in influence activities.

The proxies for firm governance include the identity of owners and ownership concentration. The most obvious channel through which governance structure affects political influence is the political network of the owners. We measure this using an indicator variable for whether the government is a significant owner of the firm. We observe that influence is higher, and bribe paying lower, when the government is an owner of the firm. In many countries, large government or state owned enterprises are quite closely related to the executive branch, which provides both a high degree of influence as well as shields them from corruption (Shleifer and Vishny, 1993).

In the second and third pairs of regression we include a variable for foreign ownership of the firm. Foreign owners may be conjectured to have less political influence and to be more or less prone to resort to bribes than domestic firms. However, controlling for exporter status, foreign ownership is not significant in either regression, and the coefficient on the export variable in the political influence regression shrinks and is no longer significant. However, the correlation among

export status, foreign ownership and having operations in other countries ranges between .23 and .42, and their joint effect on political influence is highly significant.

Our final governance variable is ownership concentration measured as the number of owners in the firm.[9] There is a weak positive correlation between number of owners and political influence. Firms owned by one single person or entity have less influence than firms with more diluted ownership. The result is, however, only significant at the 10% level. Wider ownership may provide a broader constituency base and thus increase influence. At the same time it is noteworthy that single-owned firms are not significantly more prone to corruption than more widely held firms.

The second and third pairs of specifications finally consider the effect of a firm's evaluation of the quality of parliament. The variable is significantly positively associated with the firm's perception of its political influence, while it is negatively associated with its propensity to pay bribes. This confirms the idea that firms invest more in political relationships — and less in corrupt practices — when law and rule-making is more reliably undertaken by a higher quality legislature. Investing major resources in changing existing rules through lobbying is less attractive when legislature has only weak powers or there is greater political instability.[10] In such environments, paying bribes can be more attractive (see Harstad and Svensson 2009 for an elaboration of this argument).

The final three pairs of regressions show that the effects of the explanatory variables are robust across the service and manufacturing sectors, while the effects in

[9] The measure or ownership concentration is somewhat crude in that it only distinguishes between firms held by a single owner, two to three owners, and wider ownership.

[10] On the other hand, having a political process open to competition is also important for keeping politicians in check; see Persson et al. (2003) and Alt and Lassen (2003).

the construction sector are largely absent.[11] While the levels of influence across sectors differ, as reflected in significant sector-dummy variables in the first three sets of regressions, the factors affecting political influence and bribe paying are consistent across sectors. As will become evident below, however, this equivalence across service and manufacturing sectors does not extend to the consequences of influence and corruption.

3.2 Influence and bribes: Complements or substitutes?

So far, we have treated levels of political influence and bribe paying as independent of each other, despite the fact the that the same set of variables is used to explain them. We argue, however, that firms face a choice between pursuing political influence and paying bribes — or engaging in more general corruption — to achieve one-time favors. To account for this, we estimate the first pair of specifications shown in table 2 by two-stage least squares. The results are shown in table 3.

< Table 3 here >

The first pair of columns shows results for the joint determination of political influence and bribe paying, while the second pair shows results for political influence and general corruption. The sets of variables serving as instruments (see p.14 above) are significantly related to the endogenous variable in question: Firms' own evaluation of whether they are informed about changes in laws in advance and whether the government listens to business are strong predictors of perceptions of

[11] There are however much fewer observations for this sectors and hence a conclusion should be viewed with care.

political influence, and are unlikely to influence bribe paying directly. Similarly, evaluations of police quality and court impartiality are strong predictors of bribe paying and corruption. This is confirmed by the F-test for excluded instruments: In all cases, the test statistic is large, well above the rule of thumb value of 10. This procedure tests whether the instrumental variables have explanatory power vis-à-vis the potential endogenous variable in the presence of the entire set of explanatory variables. As such, the first stage of the TSLS-procedure includes all included explanatory variables from the main estimating equation as well as the instrumental variables; the test for the relevance of the instruments is an F-test of the hypothesis that the joint effect of the instruments is zero, and it is this hypothesis that we reject.

Furthermore, we test for over-identification, which is an indication of the viability of the exclusion restriction, that is, the requirement that the instruments, to be valid, should not be correlated with the error term in the main estimation equation. The results of this test are reported as Hansen J-statistics: For all four cases, we cannot reject the null hypothesis of no over-identification, suggesting that our sets of instruments do not seem to belong in the main estimating equations of the TSLS.

Our main finding in Table 3 is that the level of bribe paying is not statistically related to the level of political influence on its own, suggesting that bribes, understood here as additional payments, do not buy political influence. Conversely, however, firms with higher levels of political influence pay fewer bribes, as firms with political influence are less likely to resort to corruption and are better shielded from extortive bureaucrats. As such, these results are supportive of the main hypothesis of this paper that political influence and bribe paying are substitutes. The asymmetry of the

results, that bribe paying does not affect political influence while political influence affects bribe paying in a negative and statistically significant way, suggests that the substitutability is also asymmetric: While strong firms can choose between more general, credible favors from the political system attained through political influence or one-time advantages bought by bribes, weak firms do not have this choice, but have to pay bribes if they want to affect decisions taken by bureaucrats or politicians.

3.3 Results: Consequences of influence and corruption

In this section, we turn to the consequences of influence, bribe paying and corruption. We ask whether levels of political influence and bribe paying affect firm outcomes, correcting for the determinants of influence by including in the estimation residuals from two-stage least squares regressions reported above. We focus on two sets of outcomes that are available from the WBES survey, by looking at the relation between political influence and bribe paying on the one hand, and sales and investment on the other hand. The available data, however, poses some limitations, as firms were merely asked to indicate whether they expected sales or investment to decrease, increase or remain unchanged relative to the current situation.

In table 4 we begin by presenting two regressions focusing on, respectively, expected sales and investments as defined above. The first pair of columns contains, for comparison, results from regressions where we employ the direct measures of political influence and bribe paying, while the second pair of regressions contains the residual based measures from the TSLS-procedure, which are corrected for potential

endogeneity. We focus on the latter pair of results, but the two sets of results are almost indistinguishable.[12]

We find that firms with more political influence are on average more optimistic about future sales while firms that pay bribes on average expect lower sales. Also of interest, we noted that exporting firms are more optimistic both with respect to sales and investments, that firms with more competitors expect lower sales, and that firms with a higher degree of government ownership expect both lower sales and lower investments. The right part of the table consider sub-samples divided by firm size and sector, focusing on sales due to the lack of significant results with respect to investment. Here, we see that political influence matters more for medium sized firms (partly since large firms already expect stronger sales growth, partly as there is less variation with respect to large firms, as there is fewer of these in the sample). We also find that the main results seem to be primarily driven by firms in the service sector.

< Table 4 here >

In table 5, we turn to a number of other outcomes important for firms. In particular, we see that political influence, together with government ownership, is positively correlated with a significant increase in sales to the government sector and the chance that the firm receives government subsidies. Both of these variables are binary, such that we effectively estimate linear probability models. Increasing political influence from the minimum (= 2) to the maximum (= 6) is correlated with an increase in the probability of selling to the state sector by about 13 percentage points

[12] This is due to the fact that the set of conditioning variables differ from the TSLS specifications only by the instruments.

and an increase in the probability of receiving government subsidies by about 10 percentage points. Politically influential firms also find the helpfulness of central government to be considerably higher, and find taxes and regulations to be less pervasive problems. We do not claim that these are causal relationships; however, the correlations are consistent with the interpretation that strong firms are in better position to influence politicians and regulative authorities and that strong firms, therefore, have a more positive perception of their interaction with the government.

< Table 5 here >

4. Conclusions

Any exchange over law or rule breaking, bending or changing involves a demand side, firms and citizens, and a supply side, government officials, politicians and political parties. While a large literature has examined the determinants of the supply of rule-breaking, in particular linking political, economic and institutional macro-level variables to measures of corruption, little attention has been paid to the choice and the determinants of rule-changing and rule-breaking by the demand-side actors. In this paper, we distinguish rule changing, achieved through what we term political influence, from rule breaking, achieved through bribes, and we argue that a firm's choice between pursuing political influence and bribing government officials is determined by the organization of the market in which it participates as well as its governance structure.

We use firm-level survey evidence to construct measures of political influence and bribe paying and find that these measures are uncorrelated at firm level. We

show that firms that are larger, older, exporting, government-owned, are widely held and/or have fewer competitors have more political influence, perceive corruption to be less of a problem and pay bribes less often – and vice versa. We show that political influence and bribe paying are asymmetric substitutes: while bribe paying does not affect political influence, political influence on the other hand shields firms from paying bribes. Finally, we find that influence is associated with higher sales and government subsidies and, in general, makes the firm have a more positive view of the state. Our analysis, thus, supports the view that strong firms use their influences to bend laws and regulations, whereas weak firms pay bribes to mitigate the cost of government intervention.

While focused on the demand side, the results of the paper also, if indirectly, makes a contribution based on a supply side argument: Firms that perceive the national legislature to be of higher quality invest more in political influence and pay less bribes while, conversely, firms with lower faith in the legislature perceive themselves as having less influence and report more bribe paying. This is consistent with the theoretical argument, made by Harstad and Svensson (2009), that firms seek rule-breaking when credibility of the political system is low, while they invest (more) in rule-changing when political credibility increases. Overall, the result that as firms become stronger they increase their potential for gaining is a demand-side parallel to the Harstad–Svensson hypothesis.

5. Appendix

Wording of WBES survey questions.

Influence: “When a new law, rule, regulation, or decree is being discussed that could have a substantial impact on your business, how much influence does your firm typically have at the national level of government to try to influence the content of that law, rule, regulation or decree?” Answers are requested for the Executive, Legislature, Ministry, and Regulatory Agency and range from 2 = never influential to 6 = very influential.

Bribe Paying: “Thinking about officials, would you say the following statement is always, usually, frequently, sometimes, seldom or never true? “It is common for firms in my line of business to have to pay some irregular “additional payments” to get things done.” ”

Corruption: “Using this scale [No obstacle … Major obstacle] can you tell me how problematic are these different factors for the operation and growth of your business.” Corruption is rated along with other factors such as Financing, Infrastructure, Taxes and Regulation, Inflation, Street crime/theft/disorder, etc.

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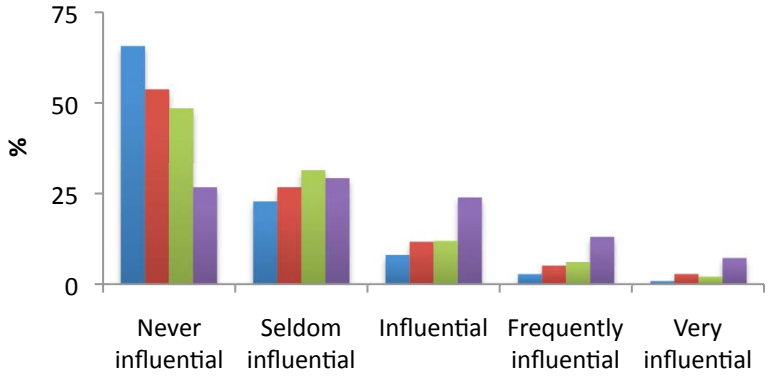
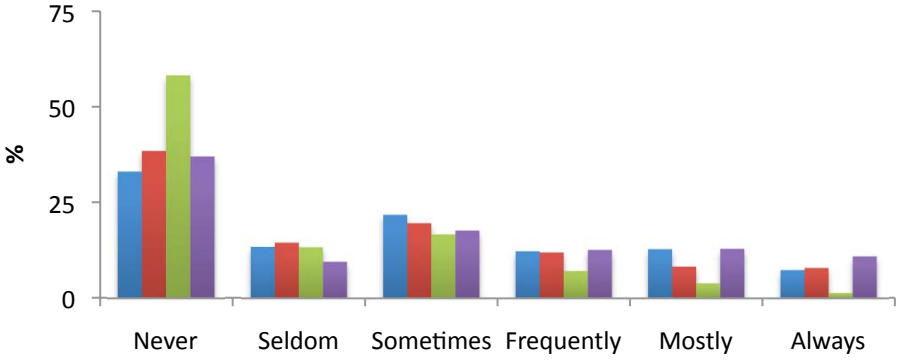
Figure 1: Distribution of survey responses

a) Influence*



* Average influence reported across all four government venues, rounded to the next integer category.

b) Additional Payments



c) Corruption

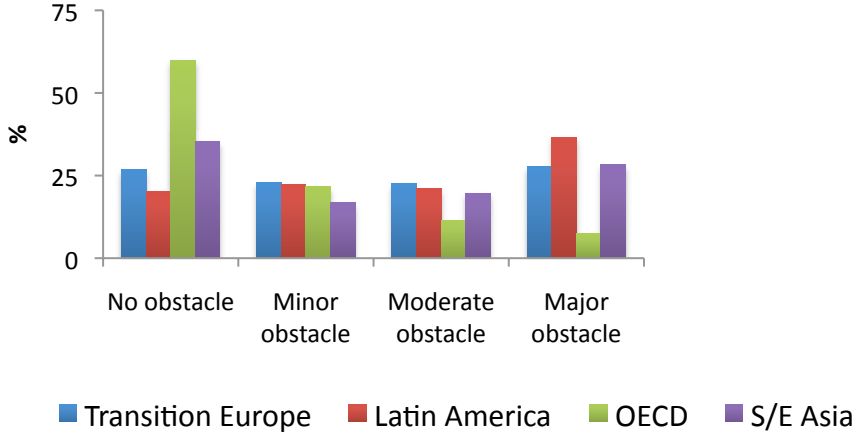


Table 1a: Firm level correlations

	Pol. influence	Corruption	Bribes
Political influence	1		
Survey measure			
	4591		
Corruption	0.006	1	
Survey measure	0.696		
	4591	4591	
Bribe paying	−0.024	0.358	1
Survey measure	0.111	0.000	
	4591	4591	4591

Numbers are: correlation coefficient, *p*−value, and no. of observations, respectively.

"Political Influence" is an individual level average of the answer to the question "What is the extent of influence of firms on X?" where X is government executive, legislature, ministry, and regulatory agency, respectively. Answers were given on a scale from 2(never influential) to 6(very influential). "Corruption" is an individual level answer to the question "How problematic is corruption to the operation and growth of your business?" Answers were given on a scale from 1(No obstacle) to 4(Major obstacle). "Bribe paying" is an individual level answer to the question "Would you say that the following sentence: *It is common for firms in my line of business to have to pay some irregular payments to get things done* is never/seldom/…/always true?" Answers were given on a scale from 1(never) to 6(always).

Table 1b: Country level correlations

	Pol. influence	Corruption	Bribe paying	Transparency International	World Bank Governance	ICRG
Political influence	1					
Survey measure						
	58					
Corruption	−0.013	1				
Survey measure	0.924					
	58	58				
Bribe paying	−0.007	0.727	1			
Survey measure	0.959	0.000				
	57	57	57			
Transparency International	−0.073	0.843	0.781	1		
CPI	0.602	0.000	0.000			
	54	54	53	54		
World Bank Governance	−0.139	0.774	0.744	0.953	1	
Governance: Corruption	0.297	0.000	0.000	0.000		
	58	58	57	54	58	
ICRG	−0.076	0.747	0.691	0.888	0.921	1
Quality of Government	0.588	0.000	0.000	0.000	0.000	
	53	53	52	52	53	53

Numbers are: correlation coefficient, p−value, no. of observations, respectively.

"Political Influence" is a country level average of individual−level firms' answers to the question "What is the extent of influence of firms on X?" where X is government executive, legislature, ministry, and regulatory agency, respectively. Answers were given on a scale from 2(never influential) to 6(very influential). "Corruption" is a country level average of individual−level firms' answers to the question "How problematic is corruption to the operation and growth of your business?" Answers were given on a scale from 1(No obstacle) to 4(Major obstacle). "Bribe paying" is a country level average of individual−level firms' answers to the question "Would you say that the following sentence: *It is common for firms in my line of business to have to pay some irregular payments to get things done* is never/seldom/.../always true?" Answers were given on a scale from 1(never) to 6(always).

"CPI" is Transparency International's Corruption Perceptions Index (Transparency International, 19XX). The "Governance: corruption" measure is from the World Bank's Governance Institute (World Bank, 200X). "Quality of government" is from International Country Risk Guide (Source: XXX). All are scaled such that the index takes on higher values where there is more corruption.

Table 2: Determinants of Political Influence and Bribe paying. OLS results

							Manufacturing		Service		Construction	
	Pol. influence	Bribes	Pol. influence	Bribes	Pol. influence	Bribes	Pol. influence	Bribes	Pol. influence	Bribes	Pol. influence	Bribes
Indicator: Small firm	−0.127	0.171	−0.103	0.168	−0.089	0.158	−0.117	0.194	−0.112	0.149	−0.067	−0.187
< 50 employees	[0.032]***	[0.065]**	[0.037]***	[0.077]**	[0.048]*	[0.086]*	[0.052]**	[0.137]	[0.043]**	[0.078]*	[0.090]	[0.212]
Indicator: Large firm	0.252	−0.194	0.266	−0.152	0.225	−0.141	0.209	−0.189	0.364	−0.103	0.055	0.103
> 500 employees	[0.036]***	[0.063]***	[0.039]***	[0.071]**	[0.050]***	[0.077]*	[0.059]***	[0.085]**	[0.056]***	[0.087]	[0.216]	[0.334]
Exporting firm	0.082	0.049	0.047	0.038	0.028	0.04	0.015	−0.006	0.139	0.033	0.07	0.126
(0 = no, 1 = yes)	[0.030]***	[0.047]	[0.036]	[0.054]	[0.033]	[0.058]	[0.043]	[0.085]	[0.051]***	[0.066]	[0.155]	[0.249]
Government ownership	0.194	−0.361	0.179	−0.317	0.223	−0.388	0.185	−0.372	0.206	−0.325	0.212	0.032
(0 = no, 1 = yes)	[0.039]***	[0.089]***	[0.042]***	[0.093]***	[0.049]***	[0.100]***	[0.055]***	[0.136]***	[0.074]***	[0.119]***	[0.138]	[0.290]
Number of competitors	−0.076	0.209	−0.088	0.196	−0.073	0.205	0.002	0.183	−0.16	0.234	0.006	0.169
(1 = none, 2 = 1−3, 3 = more)	[0.022]***	[0.043]***	[0.023]***	[0.041]***	[0.023]***	[0.043]***	[0.034]	[0.056]***	[0.036]***	[0.074]***	[0.088]	[0.208]
Firm age	0.004	−0.004	0.004	−0.004	0.003	−0.003	0.004	−0.005	0.004	−0.005	0.009	−0.007
	[0.001]***	[0.001]***	[0.001]***	[0.001]***	[0.001]***	[0.001]**	[0.001]***	[0.002]***	[0.001]***	[0.002]***	[0.003]***	[0.006]
Indicator: Service sector	0.197	−0.01	0.189	0.012	0.15	0.057						
	[0.028]***	[0.048]	[0.030]***	[0.047]	[0.035]***	[0.050]						
Indicator: Other sector	0.129	0.232	0.071	0.238	0.02	0.266						
	[0.146]	[0.346]	[0.152]	[0.322]	[0.155]	[0.334]						
Indicator: Agricultural sector	0.109	−0.286	0.128	−0.305	0.084	−0.257						
	[0.053]**	[0.132]**	[0.062]**	[0.141]**	[0.062]	[0.152]*						
Indicator: Construction sector	0.135	0.277	0.122	0.286	0.104	0.317						
	[0.050]***	[0.097]***	[0.048]**	[0.097]***	[0.054]*	[0.104]***						
Quality of parliament			0.033	−0.206	0.036	−0.221						
(1 = very bad, …, 6 = very good)			[0.010]***	[0.032]***	[0.011]***	[0.038]***						
Foreign ownership?			−0.021	−0.022	−0.004	−0.029						
(0 = no, 1 = yes)			[0.046]	[0.077]	[0.043]	[0.102]						
Operate in other countries?			0.165	−0.038	0.170	−0.010						
(0 = no, 1 = yes)			[0.042]***	[0.075]	[0.046]***	[0.089]						
Ownership concentration					−0.033	0.056						
(< 50%, 50−99%, 100%)					[0.019]*	[0.044]						
country effects												
Observations	4865	4865	4152	4152	3173	3173	1757	1757	2338	2338	416	416
R-squared	0.18	0.2	0.19	0.21	0.18	0.21	0.17	0.23	0.21	0.22	0.33	0.3
Countries	57	57	57	57	57	57	57	57	57	57	57	57
F test: Firm sizes=0							10.83	3.89	35.08	2.97	0.29	0.46
Prob > F							0	0.03	0	0.06	0.75	0.63

Robust standard errors, corrected for clustering at the country level, in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

"Political Influence" is an individual level average of the answer to the question "What is the extent of influence of firms on X?" where X is government executive, legislature, ministry, and regulatory agency, respectively. Answers were given on a scale from 2(never influential) to 6(very influential). "Corruption" is an individual level answer to the question "How problematic is corruption to the operation and growth of your business?" Answers were given on a scale from 1(No obstacle) to 4(Major obstacle). "Bribe paying" is an individual level answer to the question "Would you say that the following sentence: *It is common for firms in my line of business to have to pay some irregular payments to get things done* is never/seldom/.../always true?" Answers were given on a scale from 1(never) to 6(always).

Table 3: Determinants of Political Influence and Bribe Paying and Corruption, 2SLS

	Pol. influence	Bribes	Pol. influence	Corruption
Pol. influence		−0.289		−0.267
		[0.157]*		[0.078]***
Bribes	0.036			
	[0.059]			
Corruption			0.051	
			[0.089]	
Indicator: Small firm	−0.079	0.168	−0.072	0.087
< 50 employees	[0.035]**	[0.070]**	[0.034]**	[0.041]**
Indicator: Large firm	0.235	−0.138	0.249	−0.04
> 500 employees	[0.037]***	[0.082]*	[0.034]***	[0.050]
Exporting firm	0.074	0.084	0.091	0.006
(0 = no, 1 = yes)	[0.034]**	[0.048]*	[0.033]***	[0.037]
Government ownership	0.166	−0.254	0.182	−0.024
(0 = no, 1 = yes)	[0.043]***	[0.098]***	[0.040]***	[0.054]
Number of competitors	−0.087	0.168	−0.066	0.057
(1 = none, 2 = 1−3, 3 = more)	[0.025]***	[0.048]***	[0.024]***	[0.032]*
Firm age	0.003	−0.003	0.002	0.001
	[0.001]***	[0.001]**	[0.001]***	[0.001]
Indicator: Service sector	0.165	0.032	0.161	0.029
	[0.028]***	[0.057]	[0.027]***	[0.041]
Indicator: Other sector	0.06	0.475	0.061	0.297
	[0.182]	[0.315]	[0.141]	[0.175]
Indicator: Agricultural sector	0.08	−0.267	0.043	0.107
	[0.055]	[0.132]**	[0.047]	[0.134]
Indicator: Construction sector	0.122	0.24	0.139	0.256
	[0.057]**	[0.103]**	[0.063]**	[0.066]***
Informed about changes in laws	−0.081		−0.080	
(1=never, …, 6=always	[0.015]***		[0.014]***	
Govt listens to business	0.145		0.142	
(1=never, …, 6=always	[0.020]***		[0.020]***	
Quality of police		−0.161		−0.098
(1 = very bad, …, 6 = very good)		[0.028]***		[0.021]***
Courts: fair & impartial		−0.098		−0.072
(1=never, …, 6=always		[0.025]***		[0.015]***
+ country dummies				
Observations	4175	4175	4283	4283
F−statistic, 1st stage (p−value)	27.83 (.000)	72.63 (.000)	24.90 (.000)	74.38 (.000)
Hansen J−statistic (p−value)	.73 (.39)	.12 (.73)	.70 (.40)	.00 (.99)
Countries	57	57	57	57

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 4: Consequences

					By firm size (dept. variable: sales)			By sector (dept. variable: sales)		
	Sales	Investments	Sales	Investments	Small	Medium	Large	Manufacturing	Service	Construction
Pol. influence	0.04	0.017								
	[0.016]**	[0.013]								
Bribes	−0.024	−0.008								
	[0.009]***	[0.007]								
Pol. Influence (resid)			0.032	0.009	0.041	0.03	0.009	0.028	0.053	0.039
			[0.017]*	[0.015]	[0.030]	[0.018]*	[0.040]	[0.028]	[0.021]**	[0.057]
Bribes (resid)			−0.03	−0.009	−0.026	−0.041	−0.012	−0.028	−0.032	−0.071
			[0.009]***	[0.008]	[0.011]**	[0.017]**	[0.026]	[0.015]*	[0.012]**	[0.033]**
Indicator: Small firm	−0.128	−0.112	−0.138	−0.126				0.009	−0.166	−0.317
< 50 employees	[0.032]***	[0.039]***	[0.037]***	[0.041]***				[0.063]	[0.043]***	[0.101]***
Indicator: Large firm	0.088	0.079	0.122	0.098				0.166	0.124	0.096
> 500 employees	[0.034]**	[0.031]**	[0.034]***	[0.034]***				[0.051]***	[0.045]***	[0.200]
Exporting firm	0.164	0.156	0.178	0.166	0.224	0.226	0.073	0.26	0.095	0.256
(0 = no, 1 = yes)	[0.035]***	[0.024]***	[0.039]***	[0.026]***	[0.076]***	[0.047]***	[0.069]	[0.053]***	[0.051]*	[0.138]*
Government ownership	−0.156	−0.192	−0.162	−0.209	−0.16	−0.138	−0.247	−0.285	−0.091	−0.03
(0 = no, 1 = yes)	[0.065]**	[0.040]***	[0.070]**	[0.039]***	[0.135]	[0.097]	[0.118]**	[0.091]***	[0.076]	[0.207]
Number of competitors	−0.044	−0.008	−0.044	−0.013	−0.009	−0.091	0.018	−0.03	−0.048	−0.03
(1 = none, 2 = 1−3, 3 = mor	[0.022]**	[0.017]	[0.025]*	[0.018]	[0.040]	[0.031]***	[0.062]	[0.035]	[0.038]	[0.122]
Firm age	−0.002	−0.002	−0.002	−0.002	−0.008	−0.002	0.002	−0.002	−0.001	−0.004
	[0.001]***	[0.001]***	[0.001]**	[0.001]***	[0.002]***	[0.001]**	[0.001]	[0.001]**	[0.001]	[0.004]
Indicator: Service sector	0.118	0.118	0.132	0.129	−0.033	0.201	0.194			
	[0.037]***	[0.030]***	[0.041]***	[0.032]***	[0.059]	[0.045]***	[0.096]**			
Indicator: Other sector	0.01	0.193	−0.014	0.174	−0.484	0.258	0			
	[0.145]	[0.072]***	[0.160]	[0.060]***	[0.277]*	[0.185]	[0.000]			
Indicator: Agricultural sector	0.135	−0.02	0.124	−0.016	0.122	0.24	−0.234			
	[0.094]	[0.053]	[0.103]	[0.050]	[0.132]	[0.117]**	[0.201]			
Indicator: Construction secto	0.102	0.02	0.083	0.016	−0.15	0.225	0.125			
	[0.063]	[0.050]	[0.067]	[0.053]	[0.082]*	[0.098]**	[0.181]			
+ country dummies										
Observations	4504	4432	4504	4432	1698	2007	799	1636	2177	389
"R-squared"	0.13	0.13	0.13	0.13	0.16	0.14	0.14	0.15	0.17	0.31
Countries										

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 5: Other consequences

	Sales to state sector (y/n)	% sales reported to tax authorities	Tax and regulations problem§	Business regulation problem§	Confidence in judicial system	Receive govt subsidies	Helpfulness of central govt	Predictability of laws and regulation
Pol. Influence (resid)	0.032	0.05	−0.03	0.009	0.113	0.023	0.143	0.14
	[0.009]***	[0.047]	[0.018]*	[0.020]	[0.025]***	[0.006]***	[0.023]***	[0.023]***
Bribes (resid)	0.003	−0.316	0.071	0.062	−0.096	0	−0.048	−0.014
	[0.005]	[0.028]***	[0.009]***	[0.012]***	[0.015]***	[0.003]	[0.013]***	[0.014]
Indicator: Small firm	−0.12	−0.406	0.007	0.083	−0.073	−0.058	−0.251	−0.167
< 50 employees	[0.019]***	[0.095]***	[0.034]	[0.041]**	[0.050]	[0.011]***	[0.044]***	[0.047]***
Indicator: Large firm	0.006	0.334	−0.117	0.139	0.059	0.024	0.076	0.099
> 500 employees	[0.022]	[0.117]***	[0.042]***	[0.048]***	[0.058]	[0.017]	[0.055]	[0.053]*
Exporting firm	0.041	0.041	−0.069	−0.099	−0.03	0.029	−0.063	−0.005
(0 = no, 1 = yes)	[0.018]**	[0.094]	[0.034]**	[0.039]**	[0.049]	[0.012]**	[0.044]	[0.046]
Government ownership	0.156	0.397	−0.09	−0.159	0.281	0.148	0.264	0.194
(0 = no, 1 = yes)	[0.024]***	[0.126]***	[0.047]*	[0.056]***	[0.066]***	[0.021]***	[0.062]***	[0.063]***
Number of competitors	0.05	−0.183	0.189	0.071	−0.087	−0.003	−0.141	−0.097
(1 = none, 2 = 1−3, 3 = mor	[0.013]***	[0.073]**	[0.028]***	[0.031]**	[0.038]**	[0.010]	[0.035]***	[0.035]***
Firm age	0.001	0.001	0.000	0.000	0.001	0.000	0.001	0.003
	[0.000]*	[0.002]	[0.001]	[0.001]	[0.001]	[0.000]	[0.001]	[0.001]***
Indicator: Service sector	0.029	−0.014	−0.109	−0.028	0.038	−0.013	0.109	0.11
	[0.018]	[0.091]	[0.033]***	[0.040]	[0.049]	[0.011]	[0.043]**	[0.046]**
Indicator: Other sector	0.052	−0.581	−0.319	−0.199	−0.336	0.046	0.239	0.251
	[0.101]	[0.539]	[0.165]*	[0.181]	[0.291]	[0.073]	[0.201]	[0.212]
Indicator: Agricultural sector	0.145	0.043	−0.012	0.077	0.223	0.144	0.217	0.008
	[0.035]***	[0.169]	[0.062]	[0.087]	[0.090]**	[0.029]***	[0.087]**	[0.090]
Indicator: Construction sectc	0.177	−0.128	0.035	−0.064	−0.05	−0.01	0.116	0.219
	[0.030]***	[0.144]	[0.050]	[0.065]	[0.080]	[0.018]	[0.071]	[0.073]***
+ country dummies								
Observations	4591	4394	4581	4428	4534	4531	4493	4495
"R-squared"	0.14	0.21	0.25	0.18	0.22	0.12	0.25	0.17
Countries								

Robust standard errors in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

§ 1=no obstacle 4=major obstacle